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Brief Report

Brief Report: Infantile Autism in China

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A definition developed by the U.S. National Society for Autistic Children in 1977 and subsequently approved by the American Psychiatric Association mentioned that autism has been found throughout the world in families of all racial, ethnic, and social backgrounds. However, some investigators considered this assertion somewhat overstated. Although they thought that infantile autism might be found in various racial, ethnic, and social groups, the question remained whether or not it exists with the same frequency in every such group (Sanua, 1984).

The frequency of autism in China is a very interesting issue. Some Western visitors have been told by their Chinese colleagues that China has no infantile autism. Certain investigators found a number of cases in Hong Kong, most in upper-class Chinese families, and thought it surprising that there were no reports of Chinese autistic children.

Initial studies conducted by the author in the Nanjing Child Mental Health Research Center in mainland China have shown that infantile autism definitely exists there. These first studies covered 4 cases and were reported in the *Journal of Chinese Neuropsychiatry* (Tao, 1982). Since then, the author has collected 11 more cases, for a total of 15.

The purpose of this paper is to study the characteristics of these 15 cases of infantile autism, to discuss the problem of early recognition and diagnosis, and to look into the causes of autism's rarity in China in relation to China's social and cultural background.

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SUMMARY OF THE 15 CASES

Epidemiologic Considerations

Until now there were no available statistics for an estimate of the prevalence of autism in China. From November 1955 to July 1981 (almost 26 years), 1,190 childhood psychiatric cases were admitted to the residential unit of Nanjing Neuropsychiatric Institute. Of those cases, 5 (.42%) were diagnosed as infantile autism. But during the 2 years after the Nanjing Child Mental Health Research Center was established on June 1, 1984, 170 childhood psychiatric cases were admitted to the residential unit. Of those cases, 8 (4.7%) were diagnosed as infantile autism. During this time, 2 other cases were diagnosed at the outpatient clinic of the center.

All studies have reported an excess of boys over girls, and this current sample was no exception. Although the reported ratios of boys to girls vary from sample to sample, they tend to range between 2:1 and 4:1 (Bender, 1947; Elsenberg & Kanner, 1956; Lotter, 1966; Treffert, 1970). In this sample, however, the ratio of boys to girls was 6.5:1, an even greater excess of boys over girls affected than in these other reports.

Family Background

Our investigation of family background included parents' educational level, occupation, and personality characteristics, and family structure, relationships, and psychiatric history. This study was done by making these comparisons between 15 cases of infantile autism, 15 cases of simple mental retardation (mild and moderate), and 30 normal children of the same age range who were picked up at random as a control. Of the comparisons between parents of autistic children and parents of normal children, only the differences in mothers' educational level, occupation, and personality characteristics were statistically significant. More mothers of autistic children had a college or above education ($\chi^2 = 24.237$, $p < .01$) and a cadre of professional level occupation ($\chi^2 = 8.083$, $p < .05$). In China, fathers' educational level and professional position are usually near to, or even better than, those of their spouses. Kanner (1949) found that most of the parents of autistic children were of higher socioeconomic status. In our study, strict diagnostic criteria were used, and our findings replicated those of Kanner and of Cantwell, Rutter, and Baker (1976) on the subject of socioeconomic status of parents. Our comparison of parents of autistic children to parents of normal controls did not show significant differences in infant- and child- rearing practices as expressed by the child being cared for by the parents, by a foster mother, or in nursery or kindergarten. But more mothers of autistic

children had introverted personality characteristics than did mothers of normal control children, and the difference was statistically significant ($\chi^2 = 9.848$, $p < .01$).

For these comparisons between parents of mentally retarded children and parents of normal children, there were no statistically significant differences in any aspect of family background.

Due to the small number of autistic children in our sample, the present analysis can be only tentative.

Prenatal and Perinatal Factors

When we compared maternal age for our autistic, mentally retarded, and normal control groups, we found no significant differences among the ages of the mothers. Our findings that 12 of 15 cases of infantile autism were firstborn was in accordance with the tendency of autistic children to be the firstborn reported by Despert (1951) and Kolvin et al. (1971).

Infantile autism did not seem to be associated with a higher incidence of prenatal and perinatal complications. However, we did find a greater incidence of these complications for our mentally retarded group than for our autistic ($\chi^2 = 6.65$, $p < .01$) or normal control group ($\chi^2 = 18.409$, $p < .01$).

Clinical Features

The data obtained from the parents' reports indicated a very high frequency of certain clinical features that are essential for the diagnosis of infantile autism.

Onset of Illness. Kanner (1943) initially reported that the basic attribute of aloneness was present from the very beginning of life. One case of ours began in the 4th day after birth following a febrile convulsion; in another case, the parents admitted that the aloneness started very early. Onset for the other 13 cases was 1 before 14 months, 2 between 15 and 20, 3 between 21 and 30, 5 between 31 and 40, and 2 after 40 months of age.

Disturbances of Relating. Unlike normal toddlers, all of the autistic children in our sample showed an absence of the social smile, showed no concern over the departure of their parents, and did not run to greet their parents when they returned after an absence. Nearly 100% of our cases showed a lack of interest in playing games with others and a marked preference for being alone. They tended not to distinguish between parents and strangers when they needed comforting. Avoidance of eye-to-eye gaze is considered to be an important diagnostic criterion. Only 57% of the children in our sam-

ple avoided eye contact, as compared to 75% as reported by Ornitz, Guthrie, and Farley (1978).

In our autistic sample, 7 cases (46%) showed a strong emotional attachment to certain inanimate objects, such as a brick, a plastic bag, a calendar, a chopstick, or a watermelon. One 5-year-old girl constantly embraced a red brick that weighed 2.5 kg.

An intense desire to maintain sameness in the environment with a tendency to panic in reaction to change was shown by 6 cases (40%) in the autistic sample. Two boys felt compelled to defecate into the same chamber pot and would pass feces into their pants when it was occupied rather than use a different unoccupied pot nearby.

Disturbances of Speech and Language. Language did not develop in 1 case from early childhood, while 10 cases showed delayed, and 4 cases good or even better than average language development. After the onset of illness, speech diminished even to muteness. Echolalia or repetitive and sterotyped language appeared in 8 cases (53%), and the misuse of personal pronouns appeared in 1 case (6.6%). Though maintaining a part of language, these cases lost the communicative value of words.

Disturbances of Perception. Inattention was quite common in the autistic children of our sample. This could be secondary to their failure to sustain attention toward visual stimuli. Hyperactivity to auditory stimuli was apparent in the disregard of both visual commands and loud sounds. Even painful stimuli were often ignored.

Along with the heightened awareness of sensation there was often a tendency to induce sounds or sensory input with hand writhing or flapping, head banging, and biting on a piece of wood or hard paper. One boy frequently whirled himself as if seeking vestibular and proprioceptive input.

Disturbances of Motility. Inattention, marked hyperactivity, and impulsiveness were shown by 7 autistic children. The most striking disturbed patterns of motility were strange, stereotypic, repetitive behaviors. Some of these movements involved the whole body, such as whirling, rocking, and head banging, but most were restricted to the arms, hands, or feet.

There were 3 children who repeatedly dug their anus with their fingers and then sucked the fingers, and 1 girl who played with her feces. Inappropriate laughter and self-satisfaction were seen in 4 cases. About half of the 15 children were timid and fearful and often experienced night terror during sleep.

Disturbances of Intellectual Functions. Before illness, 5 cases were of low intellectual level, 5 were average, and 5 were above average. After onset of illness, their intellectual level declined to mental retardation. One exception was a boy of 9 who, though generally retarded, had a high ability to calculate.

Associated Conditions. With the onset of illness, most of the children in our sample showed a decline in physical growth as well as intellectual level. Epileptic fits developed in 1 case during early infancy. In our sample, the age range was between 3 and 8, except for 1 boy who was 12. More epileptic seizures would be expected to occur when these children grow older. Two cases had CT head scans, 1 showing slight cerebral atrophy and 1 showing no abnormality. Because of poor cooperation, only 5 cases had EEG examinations, 2 showing mild dysrhythmia, 2 showing focal seizure waves, and 1 appearing normal. We anticipate an increase in EEG abnormality as these children grow older.

Follow-Up Studies

Follow-up studies were conducted by mailing questionnaires to parents of 13 autistic children who were discharged from the psychiatric residential treatment unit. Two other evaluations were done at the outpatient clinic. The questionnaires asked parents about their children's present illness, any behavioral changes since hospitalization, and the degree of improvement. The questionnaires also asked parents about their attitude toward, and way of caring for, their autistic children, and their opinions.

The following is based on the 11 questionnaires returned out of 15. Of the 4 not returned, 2 were discharged from the hospital less than 3 months, and 2 had been discharged 5 and 30 years and their home addresses may have changed. The results are presented in groups based on the time between discharge and the questionnaire.

Four cases (ages 4–7) had been discharged less than 1 year. In one of these cases, useful language increased and the ability to ask questions developed. Another case improved in the ability to relate to people and look them in the eye. For both, hyperactivity and impulsive behavior diminished, but inattention and difficulties in learning continued. Their parents accepted them and gave them training and education with patience. The other 2 cases showed no change in their unusual behaviors and were essentially the same as at the time of discharge. One developed seizures in early infancy, and these were not well controlled even with any of the anticonvulsive drugs tried. The parents of these children looked after them quite well and showed a strong desire for further treatment.

Five cases (ages 6–13) had been discharged from 1 to 5 years. Two were slightly improved in social relationship, but the oddities of behavior of these 5 cases did not change fundamentally. While 1 case had occasional speech, the other 4 lost their communicative language. All remained severely mentally handicapped and totally unable to lead independent lives. Their parents

have many cares and have given up any medical treatment. One boy was under the care of a social welfare institute, 1 boy was sent away to the countryside, and 1 girl died of severe malnutrition at the age of 10.

Two cases (ages 13–30) had been discharged more than 6 years. A boy of 13, emotionally remote and echolalic, functioned below the level of a 2½-year-old. His parents were saddened by such failure and he was sent away to the countryside. The other boy grew to be an adult who could carry out simple orders and do simple physical labor despite his difficulties with social relationships, language comprehension, impulsive behavior, and severe mental retardation. At 20, he developed seizures that increased in frequency until his death at 30.

Infantile autism remains a severe condition from which only 2 out of 11 became better rather markedly. These boys developed some useful speech by the age of 5 and never developed seizures. They came from harmonious middle-class homes, and studies by Lotter have suggested that autistic children from harmonious middle-class homes do better than those from disrupted or socially disadvantaged families.

The other 9 cases had severe language impairment and had not gained or recovered useful language by age 5. They all had severe overall behavioral disturbances in early childhood, severe mental handicaps, and seizures. All of these factors have some prognostic significance.

PROBLEMS OF EARLY RECOGNITION AND DIAGNOSIS

Early Recognition

In China, children usually are referred to the clinic for evaluation and treatment by their parents. So the first step of professional recognition of this disorder is largely dependent on whether or not the parents consider the behavior of their children somewhat wrong and seek help from professionals.

The bizarre clinical features of autism described above should be recognizable by parents. But in fact, only a few of them showed this ability. The reasons for this may be many, but we found the following to be the most important.

1. Most parents did not have the scientific knowledge about the developmental stages of the first 2 years to recognize as problems such things as delayed or absent social smile and anticipatory response to being picked up, aversion to physical contact, and a preference for being alone. The abnormal behavior of autistic children was usually noticed by parents when their child did not speak at 3 or 4 years of age. Then they took their children for otolaryngological examination of hearing. Although both parents of one

autistic boy were college teachers, they looked for professional help only after their child did not speak at 5 years of age.

2. Knowing that there are different speeds of normal development of infants, some parents thought that their autistic child showed a maturational lag. Thus, they waited and hoped that their child would make up the lag in the future.

3. Perhaps in line with the Chinese biological medical model, parents paid more attention to physical symptoms of illness than to behavioral symptoms. At present in China, about 90% of urban families and 70% of rural families have only one child. Physical symptoms in their children such as headache, dyspepsia, or vomiting usually worried parents a great deal, but mental symptoms received less attention. The young mothers often felt guilt or shame, trying to hide their children's behavioral problems from the outside and denying their own concerns about their infant's deviant development for as long as possible.

Early Diagnosis

The 15 cases were examined at many hospitals by pediatricians, neurologists, and psychiatrists. They were diagnosed as mentally retarded, hyperactive, infantile dementia, childhood schizophrenia, and even sporadic encephalitis. Several factors have complicated the diagnosis of infantile autism in the early years of life.

1. There are not enough psychiatrists in China who are able to diagnose the disease. Because of the rarity of infantile autism, such children have been included among the mentally retarded or other groups.

2. Many psychiatrists are trained in adult psychiatry only, and even many pediatricians have no concept of infantile autism and lack the knowledge to make such a diagnosis. Because mentally retarded children are relatively common and most autistic children are also retarded, retardation is an easy diagnosis for autistic children.

3. Psychiatrists and other physicians have focused primarily on the disturbances of relating seen in autism while paying less attention to the disturbances of motility and perception. Because the disturbances of relating are not seen easily during the first 2 years of life in all cases, and the unusual motility patterns and disturbances of perception are not looked for, the diagnosis of autism may be missed.

4. Most professionals strictly limit the age of onset to 30 months. Due to reasons already discussed, many parents paid less attention to behavioral changes, and they could not identify precisely the time of onset—or they forgot or denied it. This means that professionals must inquire patient-

ly into the details of the child's development. In our experience, we found children whose parents placed the age of onset at 4 or 5 years, when the children were actually manifesting abnormal behaviors long before that.

RARITY OF AUTISM

The factors mentioned above may influence its early recognition and diagnosis, but the rarity of infantile autism in China is a fact. For example, the population of Nanjing is 4.5 million and the birth rate was 10.16% in June 1986. There is a well-equipped child mental health center in Nanjing, and it seems likely that cases of infantile autism would be sent there for evaluation. Yet in 15 cases of infantile autism, only 2 came from Nanjing. This is a problem that needs to be studied in further detail.

REFERENCES

Bender, L. (1947). Childhood schizophrenia: Clinical study of one hundred schizophrenic children. *American Journal of Orthopsychiatry, 17,* 40-56.

Cantwell, D., Rutter, M., & Baker, L. (1976, July 12-15). *Family factors in infantile autism.* Paper presented at the International Symposium on Autism: Reappraisal of concepts and treatment. St. Gallen.

Despert, J. L. (1951). Some considerations relating to the genesis of autistic behavior in children. *American Journal of Orthopsychiatry, 21,* 335-350.

Eisenberg, L., & Kanner, L. (1956). Early infantile autism, 1943-1955. *American Journal of Orthopsychiatry, 26,* 556-566.

Kanner, L. (1943). Autistic disturbance of affective contact. *Nervous Child, 2,* 217-250.

Kanner, L. (1949). Problems of nosology and psychodynamics of early infantile autism. *American Journal of Orthopsychiatry, 19,* 416-426.

Kolvin, I., Ounsted, C., Humphrey, M., McNay, A., Richardson, L. M., Garside, R. F., Kidd, J. S. H., & Roth, M. (1971). Six studies in the childhood psychoses. *British Journal of Psychiatry, 118,* 381-419.

Lotter, V. (1966). Epidemiology of autistic conditions in young children. 1. Prevalence. *Social Psychiatry, 1,* 124-137.

Ornitz, E. M., Guthrie, D., & Farley, A. J., (1978). The early symptoms of childhood autism. In G. Serban (Ed.), *Cognitive defects in the development of mental illness.* New York: Brunner/Mazel.

Sanua, V. D. (1984). Is infantile autism a universal phenomenon? *International Journal of Social Psychiatry, 30,* 163-177.

Tao, K. (1982). The problems of diagnosis and classification of infantile autism. *Journal of Chinese Neuropsychiatry, 2,* 104.

Treffert, D. A. (1970). Epidemiology of infantile autism. *Archives of General Psychiatry, 22,* 431-438.